PROCEEDINGS

OF THE

CALIFORNIA ACADEMY OF SCIENCES

FOURTH SERIES

Vol. XI, No. 4, pp. 49-72

JULY 8, 1921

IV

A LIST OF THE AMPHIBIANS AND REPTILES OF THE PENINSULA OF LOWER CALIFORNIA, WITH NOTES ON THE SPECIES IN THE COLLECTION OF THE ACADEMY

BY

JOHN VAN DENBURGH
Curator of the Department of Herpetology

AND

JOSEPH R. SLEVIN

Assistant Curator of the Department of Herpetology

This paper is primarily based upon a collection gathered by Mr. Slevin, in the Cape Region of Lower California, Mexico, in the months of June to September, 1919. Mr. Slevin also made a small collection at Ensenada, in 1905, while a member of the Academy's expedition to the Galapagos Islands. These specimens, and also a few secured by Dr. Gustav Eisen in June, 1899, at San Xavier, are included in this report. The specimens are all in the collection of the Academy, with the exception of those collected by Dr. Eisen, which were destroyed in the great fire of April, 1906.

The herpetology of Lower California was reviewed in several papers published in these Proceedings in 1895 and 1896. Since that time, through the study by Mocquard¹ of a collection

¹ Mocquard, Nouv. Arch. Mus. Hist. Nat. Paris., Ser. 4, Vol. I, 1899, pp. 297-343, pis. 11-13.

made by M. Diguet, and the publication by Meek² of a list of those secured by Edmund Heller, a number of species have been added to those known from the peninsula. It therefore seems worth while to publish a new list including all that are known to occur on the peninsula. The island reptiles are not included here. They have been recorded in another paper³ published by us, and in one by Miss Mary C. Dickerson⁴.

In the following list a star preceding the number indicates that no Lower Californian specimens of that species are at present in the collection of the Academy. The letters N., C., and S., following the names, indicate in a general way the portions of the peninsula inhabited by each species; N. meaning northern and including the San Diegan and Desert areas; C. the central portion of the peninsula; and S. the southern or Cape Region. A few species are included in the list without numbers but enclosed in brackets. These have not yet actually been collected in Lower California, but have been taken in California so close to the line as to make it practically certain that they occur in the Mexican territory.

LIST OF THE AMPHIBIANS AND REPTILES OF LOWER CALIFORNIA, MEXICO

- *1. Batrachoseps attenuatus. N. S.
- *2. Plethodon croceater. N. S? [Aneides lugubris lugubris]. N.
- 3. Scaphiopus couchii. S.
- 4. Bufo boreas halophilus. N.
- 5. Bufo punctatus. S.
- 6. Hyla regilla. N. S.
- 7. Hyla arenicola. N.
- *8. Rana draytonii. N.
- 9. Phyllodactvlus tuberculosus. C. S.
- 10. Phyllodactylus unctus. S.
- *11. Coleonyx variegatus. N. C.
 - 12. Ctenosaura hemilopha. S.
 - 13. Dipsosaurus dorsalis dorsalis. N. C.

² Meek, Field Columbian Mus., Zool. Series, Vol. VII, No. 1, 1906, pp. 3-19, pls.

^{*}Species which the Academy has not yet received from Lower California.

- 14. Dipsosaurus dorsalis lucasensis. S.
- *15. Sauromalus ater. N. C.
- *16. Crotaphytus collaris baileyi. N.
- *17. Crotaphytus wislizenii. N. S.
 - 18. Uma notata, N.
 - 19. Callisaurus crinitus. C.
- 20. Callisaurus draconoides. S.
- *21. Callisaurus ventralis ventralis. N. C.
- *22. Holbrookia species? C.
 - 23. Uta thalassina. S.
 - 24. Uta repens. C.
- *25. Uta mearnsi. N. C. [Uta ornata]. N.
 - 26. Uta graciosa. N. C.
 - 27. Uta nigricauda. S.
- *28. Uta microscutata. N. C.
- 29. Uta stansburiana elegans. N. C. S.
- *30. Uta stansburiana hesperis. N.
- *31. Sceloporus graciosus vandenburgianus. N.
 - 32. Sceloporus occidentalis biseriatus. N.
- *33. Sceloporus magister. N.
 - 34. Sceloporus rufidorsum. N.
 - 35. Sceloporus zosteromus. S.
- *36. Sceloporus orcutti. N. C.
 - 37. Sceloporus licki. S.
 - 38. Phrynosoma coronatum. S. C.
- 39. Phrynosoma blainvillii blainvillii. N.
- *40. Phrynosoma solare. C.
- *41. Phrynosoma platyrhinos. N. [Phrynosoma m'callii]. N.
- 42. Gerrhonotus multicarinatus. S.
- *43. Gerrhonotus scincicauda webbii. N.
- *44. Anniella pulchra. N.
- *45. Xantusia vigilis. N.
- 46. Xantusia gilberti. S.
- 47. Cnemidophorus maximus. S. [Cnemidophorus tessellatus tessellatus]. N.
- *48. Cnemidophorus tessellatus stejnegeri. N.

^{*}Species which the Academy has not from Lower California.

- *49. Cnemidophorus rubidus. C.
- 50. Verticaria hyperythra hyperythra. S.
- 51. Verticaria hyperythra beldingi. N. C.
- *52. Plestiodon skiltonianus. N. S.
- *53. Plestiodon lagunensis. S.
- *54. Euchirotes biporus. S.
- *55. Siagonodon humilis. S. C.
- *56. Lichanura roseofusca. N.
- *57. Lichanura trivirgata. S.
 - 58. Coluber flagellum piceus. N. C. S.
- *59. Coluber lateralis. N. C.
- *60. Coluber aurigulus. S.
- 61. Salvadora hexalepis. N. C. S.
- 62. Phyllorhynchus decurtatus. N. S.
- 63. Elaphe rosaliæ. C. S.
- 64. Arizona elegans. N.
- 65. Pituophis catenifer annectens. N. [Pituophis catenifer deserticola]. N.
- 66. Pituophis vertebralis. C. S.
- *67. Lampropeltis getulus boylii. N.
- 68. Lampropeltis getulus conjuncta. S.
- *69. Lampropeltis getulus yumensis. N. [Lampropeltis californiæ]. N.
- 70. Lampropeltis nitida. S.
- *71. Rhinocheilus lecontei. N.
 - 72. Hypsiglena ochrorhynchus ochrorhynchus. C. S.
 - 73. Natrix valida. S.
- *74. Thamnophis ordinoides vagrans. N.
- *75. Thamnophis ordinoides hammondii. N. C.
- *76. Sonora episcopa. N. [Sonora occipitalis]. N.
 - 77. Chilomeniscus cinctus. C. S.
- *78. Chilomeniscus stramineus. S.
- *79. Tantilla planiceps. C. S. [Tantilla eiseni]. N.
- 80. Trimorphodon lyrophanes. C. S.
- 81. Crotalus lucasensis. S.
- 82. Crotalus exsul. N. C.

^{*}Species which the Academy has not from Lower California.

- *83. Crotalus oreganus. N.
 - 84. Crotalus enyo. C. S.
- 85. Crotalus mitchellii, N. C. S.
- *86. Crotalus cerastes. N. [Clemmys marmorata]. N.
- 87. Pseudemys nebulosa. C. S.
- *88. Chelonia agassizii. S.
- *89. Eretmochelys squamosa. S.
- *90. Caretta olivacea. S.

3. Scaphiopus couchii Baird

On the way from La Paz, at sea level, to San Pedro, at an altitude of six hundred feet, the country passed through was the floor of the desert, covered with a heavy growth of cactus, mesquite, and various desert plants. Large numbers of this spadefoot toad were collected on July 3 while traversing this region. This proved just the proper time to secure any number of specimens, for thunder storms, accompanied by heavy rains, at a temperature of seventy-five or eighty degrees, were of daily occurrence. Immediately after the rains, the pools of water left in the road would be swarming with toads. A pool fifteen or twenty feet in length, and six feet or so wide, would contain as many as a hundred or more. This was the height of the breeding season, as nearly all the specimens observed were copulating. They made a loud croaking noise and would dive on one's approach, appearing again a few feet off, the male still clinging to its mate. This was the only time this species was observed, although several nights were spent in this locality collecting with a light.

4. Bufo boreas halophilus (Baird & Girard)

A single young toad (No. 8579), captured at Ensenada in July, 1905, affords the first definite record of this species in the peninsula.

5. Bufo punctatus Baird & Girard

This species, although supposed to be more abundant in the Cape Region than *Scaphiopus couchii*, was not found in such

^{*}Species which the Academy has not from Lower California.

numbers. It was collected in only three localities: at an elevation of 1400 feet in the foothills of the Sierra Laguna Mountains, at San Antonio 803 feet above sea level, and at San Pedro. While collecting with a light early in the evening forty-six specimens were taken around the public square in the little village of San Antonio. They were heard calling late into the evening. A specimen captured was observed to make a shrill whistling noise of four or five seconds duration with about the same interval, the throat swelling considerably while it was doing so. The stomach of a specimen picked up dead contained the wing covers of several species of small beetles.

At Ensenada, in July, 1905, a number of young specimens (Nos. 8562-8569, 8576-8578, 8580-8589, 8645-8672) were secured.

6. Hyla regilla Baird & Girard

During the visit to the Cape Region, only one locality was found where this little tree-toad might be expected to occur. This was in the Sierra Laguna opposite Todos Santos, at an elevation of 5400 feet. The only two specimens (Nos. 47255, 47256) taken were found in the wet grass alongside a stream of running water. During the night a few were heard calling, but a thorough search of the streams and much beating of grass resulted in no more specimens being found.

At Ensenada, eight typical specimens (Nos. 8570-8573, 8590-8593) were collected in July, 1905.

7. Hyla arenicolor Cope

On February 27, 1908, Mr. R. H. Beck collected twenty specimens (Nos. 13424-13443) of this tree-toad at Ensenada. These seem to furnish the first definite record of this species in Lower California. Mr. Beck did not secure any specimens of *Hyla regilla*, which was the only species found by the Academy's collectors at Ensenada in July, 1905.

9. Phyllodactylus tuberculosus Wiegmann

A single gecko of this species (No. 3829) was found by Dr. Eisen at San Xavier.

Mr. Slevin collected one (No. 46843) at San Bartolo, in the Cape Region. It was found under a flake of granite pulled off of a large boulder in the canyon bottom. This harmless little lizard is much feared by the natives. They consider its bite to be deadly, and believe that picking one up will cause the skin to fall off the hand. The natives say that this gecko is not common. Their name for it is *Salamanquesa*.

10. Phyllodactylus unctus (Cope)

Two specimens of this species were collected: one (No. 46844) at Agua Caliente under the bark of an old stump, and the other (No. 46842) at Miraflores under the bark of the Guamuchil, (*Pithecolobium dulce*). The natives do not distinguish this from the larger *P. tuberculosus*, but on account of its small size call it *Salamanquesa chiquita*. Like other lizards of this genus it lives under the bark of trees and in the thatched roofs of houses.

12. Ctenosaura hemilopha Cope

This is the largest lizard of the Cape Region and was collected in the following localities: Vicinity of La Paz, San Pedro, Triunfo, San Antonio, San Bartolo, Buena Vista, Santiago, Agua Caliente, San José del Cabo and Todos Santos. It is fairly abundant where found, and inhabits the large granite boulders in company with *Uta thalassina*. Where boulders are not plentiful these iguanas resort to the trees. At San Bartolo they were seen only among the granite boulders, which abound in that vicinity, but at San Pedro and Agua Caliente they were found in the trees. None was observed on the ground. They seem to live strictly on vegetable matter, and the stomachs of all the specimens collected contained the leaves of one of the common trees. On breaking off the hollow limb of a tree, at San Pedro, a Ctenosaura was found so tightly wedged within that it could be secured only by cutting it out with a small hand axe. They have the same habit as our Chuckwalla (Sauromalus ater) of getting into crevices and holding tight by puffing up the body. Large specimens are very rare, as the natives kill them for food whenever they find one of desirable

size. They are somewhat vicious when captured, and when held by the tail will always keep the mouth open ready to seize whatever comes within reach.

The coloration in life of No. 46408, was as follows: The back and sides are grayish, mottled with black. Three transverse black bands cross the shoulders. The upper surfaces of the fore limbs are black, spotted with gray; of the hind limbs, gray mottled with black. The gular region is black, bordered with gray. The ventral surface between the fore limbs is black. The belly is grayish.

The femoral pores in fifty specimens vary from four to seven; being 4 six times, 5 thirty-nine times, 6 forty-four times, and 7 eleven times.

13. Dipsosaurus dorsalis dorsalis (Baird & Girard)

Three specimens collected at San Xavier probably belonged to this subspecies. These were Nos. 3781, 3824 and 3844.

14. Dipsosaurus dorsalis lucasensis Van Denburgh

This lizard, abundant throughout the low brushy country in the Cape Region, was collected at the following localities: La Paz, San Pedro, Triunfo, San Bartolo, Buena Vista, Santiago, Agua Caliente, Miraflores, San José del Cabo, Cabo San Lucas and Todos Santos. The local name is *Cachora*. This species was not noted above 1020 feet and was particularly abundant close to the coast. Among the sand dunes back of the beach at San José del Cabo any number of specimens could be collected. Their principal enemy seemed to be the red racer, and two or three specimens of this snake when captured were found to contain the remains of a *Dipsosaurus*, and one red racer had a full grown lizard of this species in its stomach.

The femoral pores in fifty specimens vary from sixteen to twenty-one; being 16 twice, 17 eighteen times, 18 thirty-six times, 19 twenty-six times, 20 twelve times, and 21 six times.

18. Uma notata Baird

A single specimen (No. 39687) collected south of Laguna Salada about eighty miles south from Mexicali, April 5, 1915, was presented to us by Mr. R. C. Murphy.

19. Callisaurus crinitus Cope

One specimen (No. 47731), presented by Miss Mary C. Dickerson of the American Museum of Natural History, was collected at San Bartholeme Bay, Lower California, March 14, 1911.

20. Callisaurus draconoides Blainville

This lizard, called by the natives Cachora de arcna, is a fairly common species, especially near the sea coast where most of our specimens were collected. Here it was found in the sandy areas back of the beaches. In the interior it frequented the hot sandy bottoms of the canyons and adjacent arroyos. It was collected at the following localities: Todos Santos, Cabo San Lucas, San José del Cabo, Miraflores, Agua Caliente, Buena Vista, San Bartolo, San Antonio, Triunfo, San Pedro and La Paz.

The femoral pores in fifty specimens vary from twelve to twenty; being 12 once, 13 four times, 14 nine times, 15 twenty-one times, 16 twenty-four times, 17 twenty-two times, 18 twelve times, 19 five times, and 20 once.

21. Callisaurus ventralis ventralis (Hallowell)

One specimen (No. 3815) was taken by Dr. Eisen at San Xavier, in June, 1899.

23. Uta thalassina Cope

This large lizard, the most beautiful species of the Cape Region, was collected at Triunfo, San Bartolo, Agua Caliente, and in the Sierra Laguna Mountains. One was seen at Cabo San Lucas where the type was secured by Xantus. As a rule, these lizards are fairly abundant where found. They frequent the cracks and crevices in and between huge granite boulders piled up in the canyon bottoms and the small adjacent arroyos. They resemble *Uta mearnsi* in their habits, crawling along the surface of the boulders and keeping always close to a crack or crevice into which they disappear on one's close approach. Being rather shy, they will not permit one to come closer than ten or twenty feet. On several occasions they were seen to jump from boulder to boulder a distance of four feet by actual

measurement. They were found to range up to 5400 feet in the Sierra Laguna but at this elevation they were rare, and only three were seen in a small isolated pile of granite in a mountain meadow. The two specimens collected there did not show the brilliant coloring of those secured at lower levels.

Specimen No. 46505 showed the following colors in life: Top of head greenish blue; between the shoulders six spots of sky blue; anterior three transverse dorsal bars jet black, each black bar bordered posteriorly by one of orange; three less intensely black bars cross posterior half of body; tail with fifteen dark green bands spotted with black and narrowly bordered with light green; limbs light green or grayish, with bars of black; lower surfaces grayish, with exception of throat, chest and belly back to a point midway between the limbs, which are a rich orange; light blue spots on throat.

The femoral pores in fifty specimens vary from fourteen to twenty-one; being 14 twice, 15 four times, 16 sixteen times, 17 nineteen times, 18 thirty-one times, 19 twenty times, 20 seven times, and twenty-one once.

24. Uta repens Van Denburgh

One specimen (No. 3785) was taken by Dr. Eisen at San Xavier.

26. Uta graciosa (Hallowell)

Mr. R. C. Murphy very kindly presented a specimen (No. 39688) of this species collected by himself south of Laguna Salada, about eighty-five miles south from Mexicali, April 7, 1915.

27. Uta nigricauda Cope

This little tree lizard is one of the common species throughout the Cape Region where the natives call it *Bejore depiora*. It was collected at Todos Santos, Cabo San Lucas, San José del Cabo, Miraflores, Agua Caliente, Santiago, San Antonio, Triunfo, La Paz, San Pedro, and in the foothills of the Sierra Laguna Mountains. These lizards frequented rock piles, stone fences and the granite boulders in the canyon bottoms, but more commonly were found on Mesquite and other trees growing at the lower levels. They seldom were seen upon the

ground. On several occasions they were observed eating ants which they had captured crawling up the tree trunks.

A specimen (C. A. S. No. 46536) was colored in life as follows: Throat patch lemon; belly indigo blue, lightly spotted on sides with very light blue; back dark gray to brown with transverse bars of black, divided along the dorsal line by rows of small grayish scales.

The femoral pores in fifty specimens vary from nine to fourteen; being 9 eleven times, 10 thirty-nine times, 11 thirtyseven times, 12 nine times, 13 three times, and 14 once.

28. Uta microscutata Van Denburgh

This very small-scaled Uta evidently is abundant about San Xavier, for Dr. Eisen collected fifty-three specimens of it there, in June, 1899. (Nos. 3782-3784, 3786-3790, 3792, 3794-3801, 3803, 3805, 3806, 3808-3814, 3816-3821, 3823, 3825-3828, 3830-3839, 3841-3843, 3845-3847).

29. Uta stansburiana elegans (Yarrow)

Five specimens (Nos. 3793, 3802, 3804, 3807, 3822) were collected by Dr. Eisen at San Xavier.

This lizard, which generally is common in desert areas, was not found so in the Cape Region, and strange to say, was taken only at the sea-coast. None was seen in any of the interior country. All the specimens taken were found in brushy areas back of the beaches. It was collected at the following localities: La Paz, Buena Vista, San José del Cabo, and Todos Santos.

The femoral pores in seventy-two thighs of specimens from the Cape Region vary from twelve to seventeen; being 12 four times, 13 sixteen times, 14 twenty-four times, 15 twenty-one times, 16 five times, and 17 twice.

This lizard was found also at Ensenada, where Nos. 8541, 8555-8560, 8603-8616, and 8642-8644, were secured.

32. Sceloporus occidentalis biseriatus (Hallowell)

This lizard is abundant at Ensenada, where numerous specimens were secured. (Nos. 8538, 8542, 8543, 8574, 8601, 8602, 8625, 8626).

34. Sceloporus rufidorsum Yarrow

Twenty specimens (Nos. 8533-8537, 8539-8540, 8561, 8594-8600, 8622, 8627-8631) from Ensenada agree perfectly in coloration with others from Cerros Island. When this large series is compared with a large series of *S. zosteromus* from the Cape Region it is found that they represent different species. No difference in squamation appears, but the femoral pores average fewer (16.56) than in *S. zosteromus* (18.46) and more than in *S. magister* (12.61). In *S. rufidorsum* middorsal and dorsolateral longitudinal light stripes are present, and the parallel dark lines which mark the lateral scales in adult males of *S. zosteromus* are lacking. The coloration of *S. magister* is quite different and much less ornate.

35. Sceloporus zosteromus Cope

This was a fairly common lizard throughout the lower levels in the Cape Region, where it was collected at the following localities: Todos Santos, Cabo San Lucas, San José del Cabo, Miraflores, Agua Caliente, Buena Vista, San Antonio, San Pedro, and La Paz. It inhabited the brush fences around the settlements and the heavy patches of brush in the cactus belts, and was found to be extremely shy. The natives claim that this lizard is dangerous, and say that its bite is fatal to dogs. This seems to be a wide spread belief as all who saw it in the collection made the same remark. Their name for it is *Bejore*. None captured was as large as its near relatives, *S. magister* and *S. rufidorsum*. From the specimens taken in the Cape Region it appears that *S. zosteromus* is a much smaller species.

The males at this season (June to July) were brilliantly colored. A specimen in life showed the following coloring: Throat patch metallic blue; white stripe two or three scales wide down center of belly bordered by one of indigo blue, the blue one bordered by one of light green about two scales wide; sides grayish, turning to brown on the back; top of thighs and base of tail straw-colored.

The dorsal scales between the interparietal and back of thighs in forty-three specimens examined vary from twenty-six to thirty-two; being 26 once, 27 eight times, 28 five times, 29 fourteen times, 30 eight times, 31 six times, and 32 once.

Average 29. The femoral pores in forty-four specimens examined vary from sixteen to twenty-two; being 16 five times, 17 twenty-six times, 18 seventeen times, 19 seventeen times, 20 ten times, 21 twelve times, and twenty-two once; the average in eighty-eight thighs being 18.46.

36. Sceloporus orcutti Stejneger

Two specimens (Nos. 3791, 3840) secured at San Xavier are of interest as confirming our belief that Mocquard's *S. digueti* is based upon this species.

37. Sceloporus licki Van Denburgh

This, the smaller of the two Scelopori found in the Cape Region, was collected at San Antonio, Todos Santos, Guamuchil Rancho, Cabo San Lucas, San José del Cabo, Miraflores, Agua Caliente, San Bartolo, Triunfo, and La Paz. The species was found to range from sea-level to 1172 feet at Miraflores. It generally is found among the rocks in small arroyos and seldom is seen upon the ground. Being extremely shy, it will not allow one to approach nearer than fifteen or twenty feet, when it makes a hasty retreat to some nearby crevice or rockpile. The males at this time of year (July) were brilliantly marked, and the sun shining on the metallic purple and green scales would at once attract the attention even of a casual observer.

The female shows none of the brilliant coloring of the male, and at first glance looks not unlike its northern congener, S. occidentalis. A male (C. A. S. No. 46808) was colored in life as follows: A band of metallic purple six scales wide extends from shoulder to base of tail; lateral scales bronze, bordered with black; scales on belly green bordered with black; throat black mottled with green; under surfaces of thighs green, and of tail, gray; a large black patch in front of each fore limb.

In the specimens collected the femoral pores vary from 13 to 18; being 13 four times, 14 seven times, 15 twenty times, 16 twenty-six times, 17 sixteen times, and 18 five times. The average in seventy-eight thighs is 15.95.

38. Phrynosoma coronatum (Blainville)

This lizard was not found to be particularly abundant and was collected in only a few localities: Todos Santos, Pescadero, San José del Cabo, Miraflores, Agua Caliente, Triunfo, and San Pedro. Eleven specimens in all were taken. One of these (C. A. S. No. 46832) was secured at Triunfo in the sandy bottom of a small arroyo as it was standing near the mouth of an ants' nest. The native name is *Chameleon*.

The femoral pores in eleven specimens vary from fifteen to twenty-three; being 15 three times, 16 three times, 17 six times, 18 four times, 19 four times, and 23 twice.

39. Phrynosoma blainvillii blainvillii (Gray)

Four specimens (Nos. 4694-4697) were collected at Ensenada, April 30 and May 1, 1903.

42. Gerrhonotus multicarinatus (Blainville)

Owing to the difficulty of reaching the higher altitudes in the mountain ranges of the Cape Region, only six specimens of this lizard were collected. These were found at an elevation of 5400 feet in the Sierra Laguna. One was found under a dead Yucca stalk, three under fallen pine trees, and two were running about the grass in a mountain meadow. They probably are not rare, but the cool weather and daily thunder showers at this time of year (the middle of August) kept them under cover.

47. Cnemidophorus maximus Cope

This lizard was collected at La Paz, San Pedro, Triunfo, San Antonio, San Bartolo, Buena Vista, Agua Caliente, Miraflores, San José del Cabo, Cabo San Lucas, Todos Santos, and Guamuchil Rancho about twenty-five miles north of Cabo San Lucas. It was one of the common lizards of the lower levels, but was not seen at a greater elevation than at Guamuchil Rancho, 1800 feet. Its movements were extremely swift and on several occasions individuals were seen to lift the front legs clear of the ground and hold the body at a slight angle while running. Not always relying on brush for shelter, they

often run across large open spaces, depending on their speed to escape an enemy. A specimen was found in the stomach of a captured red racer, Coluber flagellum piceus. A Cnemidophorus maximus was seen under a pile of brush holding a Verticaria in its mouth. When captured this Cnemidophorus was found to have crushed the skull of its victim in its powerful jaws. The local name of this species is Largartija.

In eighty-seven specimens examined the femoral pores vary from eighteen to twenty-eight; being 18 once, 19 twice, 20 fifteen times, 21 thirty-one times, 22 forty-five times, 23 thirty-one times, 24 thirty-seven times, 25 eight times, 26 three times, and 28 once.

50. Verticaria hyperythra hyperythra (Cope)

This species was found to be the most abundant lizard of the Cape Region, where it was collected at La Paz, Todos Santos, Cabo San Lucas, San José del Cabo, Agua Caliente, Buena Vista, San Bartolo, San Antonio, Triunfo, San Pedro, Guamuchil Rancho, twenty-five miles north of the Cape, and in the foothills of the Sierra Laguna opposite Todos Santos. It ranged from sea-level to 1400 feet, and was found abundant throughout the lower levels among fallen cacti and the numerous brush heaps. The native name is *Waco*. This little lizard keeps well under cover, seldom coming into the open, and moves along with a short jerky motion a few inches at a time, until becoming alarmed when it makes off at top speed for the dense undergrowth. A pair were found mating at San Pedro the first week in July.

One hundred and sixty-eight specimens were examined to show a character used to separate this subspecies from the northern form V. h. beldingi, viz., the separation of the supraoculars from the medial head plates. The following table is given to show the distinction between the two subspecies. It will be seen that in the series from the Cape Region the separation and partial separation occurs more often at the third supraocular, while in V. h. beldingi it usually is at the second.

The femoral pores in fifty specimens vary from thirteen to twenty; being 13 three times, 14 ten times, 15 nineteen times, 16 thirty-one times, 17 twenty-one times, 18 thirteen times, 19 twice, and twenty once.

	Number of S	Specimens of
	hyperythra	beldingi
Second supraocular separated from median head scales. Second supraocular only partly separated from median head scales Third supraocular separated from median head scales. Third supraocular only partly separated from median head scales Total number examined.	16 41 44 67 168	16 10 0 2

51. Verticaria hyperythra beldingi (Stejneger)

The specimens of this subspecies recorded in the preceding table include twenty-four from Ensenada, two collected by Messrs. Stowell and Lunt at San Telmo, northern Lower California, and two from Poway Corners, San Diego County, Calitornia.

58. Coluber flagellum piceus (Cope)

This snake, called by the natives Culebra chirrionera, was found from sea-level at La Paz to an altitude of 722 feet at Miraflores. Brush fences around the numerous little ranch houses furnished excellent hiding places for this racer. Several of the specimens taken were found in these fences, where they lay stretched out at full length awaiting their prey. Lizards, to escape their natural enemies, the hawks, sought refuge here, and seldom would a snake have to wait long before securing a meal. This species, with the exception of the water snake, was the most abundant serpent met. It was not found above the floor of the desert and generally was confined to the more brushy portions of this area. Its food consisted of the numerous lizards found in the cactus belt. One specimen (No. 45966) had a full grown Dipsosaurus in its stomach. Another (No. 45962) had eaten a Cnemidophorus, and still another (No. 45970) a mouse. A fourth (No. 45972) had the tail of a Dipsosaurus in its stomach. A fifth (No. 45980) was taken in a brush pile just after it had caught a Verticaria. The tail of the lizard was protruding from the snake's mouth. A specimen (No. 45979) taken at San José del Cabo was six feet in length. The specimens varied in color, being gray, salmon, brown, or black. A cactus spine over an inch long was pulled out of a specimen taken at Miraflores.

The specimens whose scale-counts are given in the following table were all taken in the Cape Region except No. 8623, which was collected at Ensenada.

Specimens were secured at La Paz (Nos. 45960, 45965-45967) San Pedro (45961, 45968, 45969), Triunfo (45962, 45963, 45970, 45971), San Bartolo (45964, 45972), Agua Caliente (45973-45975), Miraflores (45976), San José del Cabo (45977-45979), and Todos Santos (45980).

The black specimens are Nos. 8623 from Ensenada, 45960 from La Paz, 45961 from San Pedro, 45962 and 45963 from Triunfo, and 45964 from San Bartolo.

No.	Sex	Scale Rows	Gastro- steges	Uro- steges	Anal	Supra- labials	Infra- labials	Pre- oculars	Post- oculars	Loreal	Tem- porals
8623 45960 45961 45962 45964 45965 45966 45967 45973 45973 45973 45974 45975 45977 45977 45978 45978 45978	\$	17 17 17 17 17 17 17 17 17 17 17 17 17 1	191 200 195 203 208 202 201 197 200 203 201 198 203 201 204 207 202 203 203 201 204 207 202 203 203 207 202 203 204 207 207 203 208 209 209 209 209 209 209 209 209 209 209	105c 115c 104c 108c 85+ 99+ 106+ 118c 107+ 47+ 119c 118c 50+ 115+ 107c 78+ 94+ 124c 126c 118+	****	8—8 8—8 8—8 8—8 8—8 9—8 8—8 8—8 8—8 8—8	10—9 10—10 10—10 10—10 10—10 10—10 10—10 10—10 10—10 10—11 10—10 10—10 10—10 10—10 10—10 10—10 10—10	2-2 2-2 2-2 2-2 2-2 2-2 2-2 2-2 2-2 2-2	2—2 2—2 1—1 2—2 2—2 2—2 2—2 2—2 2—2 2—2	1-1	3-4 1+1+2-2+2+2 2+2+2-2+2+2 2+2+2-2+2+2 1+2+2-1+1+2 2+1+2-2+1+2 2+2-2+2 1+1-1+1 2+1-2+1 2+1-2+2 2+2-2+1 2+2-2+1 2+2-2+2 2+2-2+3 2+2-2+3 2+2-2+3 2+2-2+2

61. Salvadora hexalepis (Cope)

This species was next in abundance to *Natrix* and *Coluber*. It inhabited the same kind of country as *Coluber* and was found from sea level at La Paz to over 900 feet at Triunfo. Of the ten specimens taken none gave an opportunity to discover their food. They were active throughout the day, being found out during the heat of the day as well as during the cooler hours. One specimen (No. 45954) was taken just about noon time in a brush thicket. Both the light and dark phases were found. Fallen cactus trees and brush thickets were good places to find this species. The natives call it *Culebra sorda*.

No.	Sex	Scale Rows	Gastro- steges	Uro- steges	Anal	Supra- labials	Infra- labials	Pre- oculars	Post- oculars	Loreal	Tem- porals
45949 45950 45951 45952 45953 45954 45955 45956 45957 45958 45959	\$	17 17 17 17 17 17 17 19 17 17	199 201 193 199 200 194 197 190 203 200 197	96c 96c 92c 86c 91c 92+ 89c 98c 91c 96c 84c	+++++++++++++++++++++++++++++++++++++++	9—9 9—9 9—8 9—9 9—9 9—9 9—9 9—9	10—10 10—10 10—10 10—10 10—10 10—11 10—10 11—11 10—10	1—1 2—2 2—2 2—2 2—2 2—2 2—2 2—2 2—2 2—2	2—2 2—2 2—2 2—2 2—2 2—2 2—2 2—2 2—2 2—2	1—1 1—1 1—1 1—1	2+3-2+3 2+3-2+3 2+3-2+3 2+3-2+3 2+3-2+3 2+3-2+3 2+3-2+3 2+3-2+3 2+3-2+3 2+3-2+3 2+3-2+3 2+3-2+3 2+3-2+3

These specimens were collected, Nos. 45949 and 45950, at San José del Cabo, 45951 and 45952 at San Pedro, 45953 at Buena Vista, 45954 at Santiago, 45955 and 45956 at Miraflores, 45957 at Todos Santos, 45958 at La Paz, and 45959 at Cabo San Lucas.

62. Phyllorhynchus decurtatus (Cope)

One specimen was collected by a Mexican boy in the outskirts of La Paz. It was found late in the afternoon crawling among a pile of rocks. Señor Rubio, a resident of La Paz from whom the specimen was secured, said he had never seen one like it although he had collected around La Paz for many months.

No.	Sex	Scale Rows	Gastro- steges	Uro- steges	Anal	Supra- labials	Infra- labials	Pre- oculars	Post- oculars	Loreal	Tem- porals
45983	?	19	161	35c	1	6—6	9—9	2—2	33	1—1	2+3-2+3

63. Elaphe rosaliæ (Mocquard)

The second known specimen of this species was collected at San Bartolo, in the arroyo close to the famous spring. It was found stretched at full length on the sand close to a grove of banana trees. At first glance, this snake might be taken for a red racer with absence of the dark markings on the head. The natives, although they have no name for this snake, probably on account of the rarity of the species, distinguish it from the racer because of the slowness of its movements. A Mexican boy, upon being questioned, said that he had seen others like

it and that this snake did not run fast like the racer, but in its movements was more like the gopher snake, a specimen of which was shown him to see if he could distinguish it.

_	No.	Sex	Scale Rows	Gastro- steges	Uro- steges	Anal	Supra- labials	Infra- labials	Pre- oculars	Post- oculars	Loreal	Tem- porals
	45982	ç	34	286	84c	÷	11—10	12—13	2—2	3—3	1—1	34

64. Arizona elegans Kennicott

A male of this species (No. 8624) was found at Ensenada. Its scales are in 27 rows, gastrosteges 213, urosteges 51c, anal 1, supralabials 8-8, infralabials 12-12, preoculars 1-1, postoculars 2-2, loreals 1-1, and temporals 2+5-2+4.

65. Pituophis catenifer annectens (Baird & Girard)

One specimen (No. 8575) was captured near Ensenada. It is a male, and has scales in 31 rows, gastrosteges 229, urosteges 76c, anal single, supralabials 8-9, infralabials 13-14, preocular 2-2, postoculars 4-3, loreal 1-1, temporals 3-4.

66. Pituophis vertebralis (Blainville)

All the specimens of this species taken were found in the vicinity of towns or small rancherias. According to the natives this species is fairly abundant. One specimen (No. 45874), taken at a small ranch about three miles from San Pedro, had the remains of a small mammal in its stomach. The species is well known to the natives, who call it *Coralillo*.

No.	Sex	Scale Rows	Gastro- steges		Anal	Supra- labials	Infra- labials	Pre- oculars	Post- oculars	Loreal	Tem- porals		hes on Tail
45874 45875 45876 45877 45878	0,00	31 35 33 35 33	239 248 248 257 245	64c 61c 54 + 63c 63c	1 1 1 1	9—10 9—10 10—9 10—8 9—9	12—12 16—14 13—14 13—14 12—12	2—2 2—2 2—2 2—2 2—? 2—2	3—3 3—3 3—3 ?—3 3—3	1-1 1-1 1-1 1-1 1-1	3-4 4-4 4-4 ?? 4-4	45 48 43 44 39	12 11 10+ 11 11

These specimens were collected at San Pedro (No. 45874), San Antonio (45875), San Bartolo (45876-45877), and Agua Caliente (45878).

68. Lampropeltis getulus conjuncta (Cope)

The only two specimens collected were brought in by small boys who found them in a sugar cane field in the outskirts of San José del Cabo.

No.	Sex	Scale Rows	Gastro- steges	Uro- steges	Anal	Supra- labials	Infra- labials	Pre- oculars	Post- oculars	Loreal	Tem- porals
45946	Q	23	236	46c	1 1	7—7	10—10	1—1	2—2	1—1	2+3-2+3
45947	Q	23	230	46c		7—7	10—10	1—1	2—2	1—1	2+3-2+3

70. Lampropeltis nitida Van Denburgh

The third known specimen (No. 3779) was collected by F. Billa at San José del Cabo, in April, 1896.

72. Hypsiglena ochrorynchus ochrorhynchus (Cope)

The one specimen of this snake collected was taken in the Sierra Laguna at an elevation of 5400 feet. It was found under an old pine log in one of the mountain meadows. The log had sunk several inches in the ground and the snake was tightly coiled in a small cavity beneath it.

No.	Sex	Scale Rows	Gastro- steges	Uro- steges	Anal	Supra- labials	Infra- labials	Pre- oculars	Post- oculars	Loreal	Tem- porals
45889	ę	21	184	41c	1	8—8	10—10	11	22	1—1	1+2-1+2

73. Natrix valida (Kennicott)

This serpent, although collected in only four localities, was the most abundant species found. Most of the specimens were collected in a stream flowing from the base of Mount San Rafael near Agua Caliente. Individuals were abundant in the quiet waters along the sides of the stream, where they were feeding on pollywogs, probably of *Bufo punctatus*, which swarmed in every pool. Only one specimen was found at any distance from the water, and this one only a hundred yards or so. This snake was collected at Agua Caliente, Miraflores, Santiago and San José del Cabo.

No.	Sex	Scale Rows	Gastro- steges	Uro- steges	Anal	Supra- labials	Infra- labials	Pre- oculars	Post- oculars	Loreal	Temporals
45890 45891 45892 45893 45894 45895 45896 45901 45901 45901 45906 45911 45912 45913 45914 45915 45916 45917 45918 45918 45919 45910 45911 45912 45913 45914 45915 45916 45917 45918 45918 45919 45918	৽৽৽৽৸৸৸৸৸৸৸৸৸৸৸৸৸৸৸৸৸৸৸৸৸৸৸৸৸৸৸৸৸৸৸৸	Scale Rows 19-19-17-17	144 142 143 144 143 144 145 145 147 148 149 149 141 141 141 141 141 142 143 144 144 144 144 144 144 144 144 144	56+ 74c 71c 77c 76c 79c 76c 77e 77c 80c 78c 77c 82c 77c 77c 77c 77c 77c 77c 77c 77c 77c 7	Anal ++++++++++++++++++++++++++++++++++++	a bials	labials	1-1	oculars 3 — 3 3 —	Loreal 1—1 1—1 1—1 1—1 1—1 1—1 1—1 1—1 1—1 1	Temporals 1+2+2-1+2+3 1+2+3-1+2+3 1+2+3-1+2+3 1+2+3-1+2+3 1+2+3-1+2+3 1+2+3-1+2+2 1+2-1+2 1+2-1+2 1+2-1+2+2 1+2-1+2+2 1+2-1+2+2 1+2+3-1+2+3 1+2+3-1+2+3 1+2+3-1+2+3 1+2+2-1+2+3 1+2+3-1+2+3 1+2+2-1+2+2 1+2+3-1+2+3 1+2+2-1+2+2 1+2+3-1+2+3 1+2+2-1+2+3 1+3-1+2
45944 45945	ģ	19-19-17-17 19-19-17-17	143	76c 60+	÷ ÷	8—8 8—8	10—10 10—10	1-1	3—3 3—3	1-1	1+2+3-1+2+2 1+2+2-1+2+2

77. Chilomeniscus cinctus Cope

The only specimen of this species taken by Mr. Slevin was found under a pile of debris close to a house in a street of Todos Santos. The species is known to the natives, who say it is rare and that they do not see many.

No.			Gastro- steges		Anal	Supra- labials	Infra- labials	Pre- oculars	Post- oculars	Loreal	Temporals
45981	Ç	13	120	26c	+	7—7	9—9	1—1	22	0-0	1+1-1+1

80. Trimorphodon lyrophanes Cope

One specimen of this snake was collected at San José del Cabo. It was found in the thatched roof of a house late in the afternoon as it was crawling over the rafters. The food of this snake consists, at least in part, of small mammals, as this specimen had in its stomach the remains of a mouse or some small mammal with long hair.

No.	Sex	Scale Rows	Gastro- steges	Uro- steges	Anal	Supra- labials	Infra- labials	Pre- oculars	Post- oculars	Loreal	Temporals
45948	o ⁿ	23	231	74c	÷	99	11-11	3—3	3—3	2—2	3+4-3+4

81. Crotalus lucasensis Van Denburgh

Although supposed to be the most common rattlesnake of the Cape Region, only a single specimen was collected. This was found in the vicinity of Agua Caliente, just at dusk, crossing a road. The stomach of this specimen contained the remains of a small mammal.

No.	Sex	Scale Rows	Gastro- steges	Uro- steges	Anal	Supra- labials	Infra- labials	Pre- oculars	Post- oculars	Loreal
45888	♂"	27	186	26c	1	17—16	19—19	2—2	3—3	2—2

82. Crotalus exsul Garman

Our collections include four specimens of this rattlesnake. Three of these were collected by Mr. R. H. Beck near Ensenada, February 27, 1908. The fourth (No. 42047) was brought back by the "Albatross" from Turtle Bay, Lower California. The scale-counts are given below.

No.	Sex	Scale Rows	Gastro- steges	Uro- steges	Anal	Supra- labials	Infra- labials	Pre- oculars	Post- oculars	Loreal
13416 13417 13418 42047	5° 5° 0°	29 31 29 29	193 197 193 193	25c 22c 28c 20c	1 1 1	17—18 16—17 16—17 16—?	19—18 17—18 17—19 18—?	2—2 2—2 2—2 2—2	3—3 3—3 3—3 3—3	1—1 1—1 2—2 1—1

84. Crotalus enyo Cope

This species was the most abundant of the rattlesnakes encountered. Like the gopher-snakes they were mostly confined to the vicinity of habitations. As in other places, rattlesnakes were found in the early morning or evening. One specimen (No. 45884) was found early in the morning coiled up under a pile of brush. Another (No. 45886) was found coming out of a rock wall within a few feet of a house. Their food consisted of small mammals, as far as discovered from specimens collected. The natives call all rattlesnakes by the name *Vivora*. Specimens were collected at Miraflores (45879), San Antonio (45880), Todos Santos (45881), San Bartolo (45882), San Pedro (45883, 45884), San José del Cabo (45885), and in the Sierra Laguna (45886).

No.	Sex	Scale Rows	Gastro- steges	Uro- steges	Anal	Supra- labials	Infra- labials	Pre- oculars	Post- oculars	Loreal
45879 45880 45881 45882 45883 45884 45885 45886	juv.	27 25 25 25 25 25 25 25 25 25	170 160 163 166 169 169	23c 23c 25c 25c 18c 19c 22c 26c	1 1 1 1 1 1 1 1	14—15 13—13 ?—13 15—13 13—13 ?—14 14—14	?—? 14—14 ?—13 13—13 13—13 ?—14 15—15	2—2 2—2 ?—2 2—2 2—2 2—2 ?—2 2—2 ?—2	3—3 3—3 ?—3 3—3 3—3 ?—3 3—3 3—3	1—1 1—1 ?—1 1—1 1—1 1—1

85. Crotalus mitchellii Cope

The only snake of this species collected was found at Agua Caliente. It was brought in by a Mexican boy who caught it in a small field that was being dug up for planting corn. Mr. Ferris saw a rattlesnake which he thought was this species on Mount San Rafael, when about half way up the mountain.

No.	Sex	Scale Rows	Gastro- steges	Uro- steges	Anal	Supra- labials	Infra- labials	Pre- oculars	Post- oculars	Loreal
45887	♂"	25	177	23c	1	1616	17—16	2—2	3—3	1—1